



PERISTALTIC METERING PUMPS

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A peristaltic pump is a type of positive displacement pump used for pumping a variety of fluids. The fluid is contained within a flexible tube fitted inside a circular pump casing (though linear peristaltic pumps have been made). A rotor with a number of “rollers”, “shoes”, “wipers”, or “lobes” attached to the external circumference of the rotor compresses the flexible tube. As the rotor turns, the part of the tube under compression is pinched closed (or “occludes”) thus forcing the fluid to be pumped to move through the tube. Additionally, as the tube opens to its natural state after the passing of the cam (“restitution” or “resilience”) fluid flow is induced to the pump. This process is called peristalsis and is used in many biological systems such as the gastrointestinal tract. Typically, there will be two or more rollers, or wipers, occluding the tube, trapping between them a body of fluid. The body of fluid is then transported, at ambient pressure, toward the pump outlet. Peristaltic pumps may run continuously, or they may be indexed through partial revolutions to deliver smaller amounts of fluid. Peristaltic pumps are typically used to pump clean/sterile or aggressive fluids because cross contamination with exposed pump components cannot occur.

- Silicone Rubber
- Fluoropolymer
- PharMed

A peristaltic pump is non-siphoning which means that they prevent back flow into the system. This promotes accuracy during dispensing. They are also self-priming – a peristaltic pump will draw fluid into the tubing when starting dry, up to 8.8 m suction lift. Other pumps require user to fill pump and suction line with fluid before use which can be inconvenient and also create potential for hazardous spills or contamination. They will not gas out like other metering pumps. Even though the hoses require a little more maintenance than diaphragm pumps, for some applications I feel that the lower cost of these pumps and the reliability of them make them a good fit for many applications. If you are always fighting the gassing out issue maybe you should give one of these pumps a try and see if this could be the answer you have been looking for. 💧💧

ADVANTAGES

- No contamination. Because the only part of the pump in contact with the fluid being pumped is the interior of the tube, it is easy to sterilize and clean the inside surfaces of the pump.
- Low maintenance needs. Their lack of valves, seals and glands makes them comparatively inexpensive to maintain.
- They are able to handle slurries, viscous, shear-sensitive and aggressive fluids.
- Pump design prevents backflow and siphoning without valves.

DISADVANTAGES

- The flexible tubing will tend to degrade with time and require periodic replacement.
- The flow is pulsed, particularly at low rotational speeds. Therefore, these pumps are less suitable where a smooth consistent flow is required.

TUBING

It is important to select tubing with appropriate chemical resistance towards the liquid being pumped. Types of tubing commonly used in peristaltic pumps include:

- Polyvinyl Chloride(PVC)